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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/386,972	08/31/1999	BEHNAM MORADI	2008.003000	1988
23720	7590	06/29/2004	EXAMINER	
WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			KRISHNAN, SUMATI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/386,972

Applicant(s)

MORADI, BEHNAM

Examiner

Sumati Krishnan

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AK

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4-7,10,11,13,14,16,17,19,20,22,23 and 25-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2,4-7,10-11,13-14,16-17,19-20,22-23, and 25-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Examiner Notes

The Examiner notes that applicant states claims 2,4-7,10-11,13-14,16-17,19-20,22-23, and 25-33 are pending. However, only claims 2,4-7,10-11,13-14,16-17,19-20,22-23, and 25-31 exist in the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2,4-6, 16-17, 19 and 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Watkins et al (US 5827102).

Regarding claims 2,4-5,16 and 17, Watkins discloses a method of manufacturing a field emission device, the method comprising operating the field emission device in a pressure of at most about 10^{-8} torr for at least approximately 15 minutes to remove at least a portion of materials from within said field emission device, and sealing said field emission device. See column 6 lines 5-20, disclosing the pressure being from 10^{-5} to 10^{-8} torr and the time being 1-2 hours (which is “at least” 15 minutes). Watkins discloses sealing the field emission device after the at least 15 minutes, see column 6 lines 19-25.

Regarding claims 6 and 19, Watkins’ sealing is in a vacuum chamber.

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Regarding claims 28-29, Watkins discloses operating the field emission device in a pressure of at most about 10^{-8} torr for 1-2 hours. The time span of 1-2 hours “includes” sealing the field emission device for 15-30 minutes, and “includes” sealing the field emission device for 20 minutes as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watkins (US 5827102).

Although Watkins discloses the sealing of the field emission device in a vacuum chamber, it makes no difference whether the exhaust tube be pinched off while the field emission device is in a vacuum or at atmospheric pressure since the exhaust tube in either case would not be open to other than the desired vacuum of a vacuum pump at the time of closing the exhaust tube. Therefore, it would have been obvious to one of ordinary skill in the art to have performed the sealing of Watkins under atmospheric pressure since both are ordinarily performed during manufacture of field emission devices.

Claims 10-11,13-14,22,23,25-27 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watkins (US 5827102) in view of Garcia (US 5521461).

Regarding claims 10,11,22,23 and 25, Watkins discloses a method of manufacturing a field emission device, the method comprising operating the field emission device in a pressure of at most about 10^{-8} torr for at least approximately 15 minutes to remove at least a portion of outgassed materials from within said field emission device, before sealing said field emission device. See column 6 lines 5-20, disclosing the pressure being from 10^{-5} to 10^{-8} torr and the time being 1-2 hours (which is "at least" 15 minutes). Watkins discloses sealing the field emission device after the at least 15 minutes, see column 6 lines 19-25.

Although Watkins does not specifically disclose cleaning the base plate before assembly, it is prima facie obvious to clean the parts of a field emission device e.g., baseplate, prior to assembling and sealing the pads together since the interior surfaces are not accessible for readily removal of gross contamination, e.g. dust, fluids etc., after assembly. See Garcia, column 3, lines 1-6. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have cleaned the base plate before assembly since, as stated above, the baseplate would not be readily accessible for cleaning after assembly.

Regarding claims 13 and 26, Watkins' sealing is in a vacuum chamber.

Regarding claims 14 and 27, Although Watkins discloses the sealing of the field emission device in a vacuum chamber, it makes no difference whether the exhaust tube be pinched off while the field emission device is in a vacuum or at atmospheric pressure since the exhaust tube in either case would not be open to other than the desired vacuum of a vacuum pump at the time of closing the exhaust tube. Therefore, it would have been obvious to one of ordinary skill in the

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art to have performed the sealing of Watkins under atmospheric pressure since both are ordinarily performed during manufacture of field emission devices.

Regarding claims 30-31, Watkins discloses operating the field emission device in a pressure of at most about 10^{-8} torr for 1-2 hours. The time span of 1-2 hours "includes" sealing the field emission device for 15-30 minutes, and "includes" sealing the field emission device for 20 minutes as claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumati Krishnan whose telephone number is 571-272-2372. The examiner can normally be reached on 9:00 am - 5:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SK

Joseph W. Wilkins
Joseph W. Wilkins